

CANAL ROAD ENTRANCE TO GEORGETOWN UNIVERSITY
ROADWAY IMPROVEMENTS
Georgetown area of Washington, DC

Report to the Federal Highway Administration

December 2, 1999

Abstract

The Federal Highway Administration has submitted roadway improvements to the Canal Road entrance to Georgetown University (GU). The project consists of installing a signalized intersection and a new two-lane entrance road at the Canal Road entrance to GU. Land transfers will be needed to accomplish the road construction. Approximately one-half acre of parkland under the jurisdiction of the National Park Service (NPS) will be transferred for road construction, partially to GU and partially to the District of Columbia Department of Public Works. GU will transfer land equal in value back to NPS. As the local match contribution for the federal aid, GU will dedicate 2.5 acres of land to NPS as scenic easement. Traffic studies indicate that the proposed project will not decrease the level-of-service on Canal Road within the study area.

Authority

Section 5 of the National Capital Planning Act of 1952, as amended (40 U.S.C. 71(e)).

Commission Action

The Commission:

- **Approves** the preliminary design plans for the improvements to the Canal Road entrance to Georgetown University, as shown on NCPC Map File No. 71.00 (38.00)-40728.
- **Requests** that the project plans submitted to the Commission for final approval include:
 - Design plans for the new retaining wall, including a site plan and elevations
 - A landscape plan for the entire project area including the new island between Canal Road and the new entrance road.

- Design plans and specifications for the repair of the façade of the Canal Road retaining wall at the Whitehurst Freeway, and the cap of the C&O Canal wall.
- **Requires that:**
 - The land transfers related to the entrance improvements result in no net loss of federal parkland.
 - The land transferred from Georgetown University to the National Park Service is located adjacent to existing parkland along the Potomac Palisades Parkway and/or Glover-Archbold Park.
 - The land transfers be submitted to the Commission for approval prior to or concurrently with the final design plans for the Canal Road Entrance to Georgetown University project.
 - All mitigation measures identified below and in the Final Environmental Impact Statement (“FEIS”) shall be implemented prior to the operational activation of the Canal Road traffic signals, including requirements that:
 - The Prospect Street entrance to and exit from Georgetown University (“GU”) shall continue to remain open following completion of the Canal Road project.
 - A two-lane road will be constructed from and adjacent to Canal Road, approximately 300 feet east of the GU entrance to a point south of Lot 822 (the Washington Metropolitan Area Transit Authority property), where it will connect to the existing GU entrance road.
 - A deceleration lane approximately 150 feet in length will be constructed on westbound Canal Road for traffic entering the university.
 - A new right-turn only lane, approximately 140 feet in length, will be constructed on eastbound Canal Road at the Canal Road/Whitehurst Freeway intersection, and a portion of the existing upper Canal Road retaining wall, along eastbound Canal Road, will be relocated approximately 6.5 feet to the south to accommodate this new lane.
 - The new traffic signals that will be installed at the new entrance to allow left turns onto eastbound Canal Road will be designed to prohibit such left turns exiting the university during the morning rush hour period.
 - The new traffic signals and controls will be fully capable of sensing demand both for through traffic along Canal Road in both directions and for traffic exiting from and entering the university with movements that cross Canal Road, and thereby eliminate or reduce to a minimum the dedicated left turn signal time when the needs of through traffic dictate.
 - All construction for the Canal Road project which requires any temporary closing or restriction on the number of travel lanes along Canal Road in either direction shall be performed before and after peak period traffic, and, to the extent possible, without blockage to traffic flow along Canal Road.
 - Prior to the Commission’s consideration of final design approval, criteria is provided by the FHWA, in coordination with the D.C. Office of Planning with input from the affected communities, to evaluate the effectiveness of the Canal Road project one year after activation of the Canal Road traffic signal, including the accuracy of FHWA’s projected impacts of the project upon traffic flow along Canal Road and the surrounding communities.

- FHWA use these criteria to evaluate the effectiveness of the project one year after activation of the traffic signal, and submit a report of the evaluation to the Commission for review. In recognition that this is a demonstration project, the Commission reserves the right at that time to require further mitigating measures, including further restrictions upon the use of the Canal Road traffic signals.

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BACKGROUND AND STAFF EVALUATION

DESCRIPTION OF PROPOSAL

The Federal Highway Administration (FHWA) has submitted plans for improving the Canal Road entrance to Georgetown University (GU). The project consists of installing an at-grade-signalized intersection at the Canal Road entrance to GU and providing improvements to Canal Road at its intersection with Whitehurst Freeway. Under this scenario, the Prospect Street entrance to GU would remain open. The purpose of the project is to provide full turning movements from Canal Road to Georgetown University and to limit university-related traffic on nearby Georgetown neighborhood streets, particularly Prospect and 34th Streets.

Currently, a raised median separates the two eastbound and the two westbound lanes of Canal Road, thereby allowing only right turns to and from westbound Canal Road. Since drivers can not turn left from Canal Road into the university, or from the university entrance to eastbound Canal Road, many use the existing Prospect Street gate that provides access to the southern section of the GU campus. The proposed project is on the south side of the university, between the Whitehurst Freeway and Foxhall Road.

Canal Road is an east-west commuter route, carrying residents of Northwest D.C., Maryland, and Virginia to and from downtown office centers and the Rosslyn and Crystal City business districts in Arlington County. From the university entrance, Canal Road proceeds westward to MacArthur Boulevard and Foxhall Road in the District, and parallels the Potomac River to connect to the Clara Barton Parkway in Maryland. From the university entrance eastward, Canal Road leads to M Street, the Whitehurst Freeway, and Virginia via the Key Bridge.

Project History and Legislation

Upgrade proposals for the Canal Road entrance to GU have been considered for more than two decades. In 1976, Congress authorized a study of this intersection using Urban Mass Transportation Administration funds. A 1982 Environmental Assessment recommended an at-grade-signalized intersection which, analysis concluded, would not significantly affect Canal Road traffic. Residents' concerns about traffic backups caused by morning peak hour eastbound, left-turning traffic onto Canal Road shelved this plan.

In 1987, Congress authorized the current project in the Surface Transportation and Uniform Relocation Assistance Act of 1987 as a "demonstration project in the vicinity of the C&O Canal

in the District of Columbia for the purpose of substantially improving motor vehicle access at a major traffic generator without decreasing the efficiency of a Federal-aid primary highway.”

Proposed Road Improvements

The project consists of installing a signalized intersection and a new entrance road at the Canal Road entrance to GU.

- A two-lane road will be constructed from and adjacent to Canal Road, approximately 300 feet east of the GU entrance to a point south of Lot 822 (the Washington Metropolitan Area Transit Authority property), where it will connect to the existing GU entrance road.
- A 250-foot long left turn storage lane will be constructed on eastbound Canal Road.
- A deceleration lane 150 feet in length will be constructed on westbound Canal Road for traffic entering the university.
- New traffic signals will be installed at the new entrance to allow left turns onto eastbound Canal Road (except during AM peak period) and to allow left turns from eastbound Canal Road onto the new entrance road.
- To mitigate potential traffic back-ups on Canal Road, the project includes a new right-turn-only lane, approximately 140 feet in length, to eastbound Canal Road at the Canal Road/Whitehurst Freeway intersection.
- A portion of the existing upper Canal Road retaining wall, along eastbound Canal Road, will be relocated approximately 6.5 feet to the south to accommodate the new lane.

Land Transfers

Land that is currently owned by the U.S. Government under NPS jurisdiction is needed to construct the proposed project.

- Approximately one-half acre of land that is part of the Potomac Palisades is needed to construct the new entrance road. Most of this land will be transferred from NPS to Georgetown University, with a small portion adjacent to Canal Road to be transferred from NPS to DCDPW.
- Approximately 715 square feet (0.016 acre) of land which is part of the C&O Canal National Historic Park is needed to construct the right-turn-only lane on eastbound Canal Road at its intersection with the Whitehurst Freeway. This land will either be transferred from NPS to DCDPW, or NPS will grant an easement to DCDPW for road construction purposes.
- FHWA, NPS, and GU have agreed that GU will transfer land to NPS in an amount that is at least of equal value to the parkland that will be lost. The amount of land and its location have not yet been determined. It is the goal of NPS that it is undisturbed land located along the

periphery of the GU campus adjacent to parkland. NPS anticipates that this transfer will be a scenic easement, rather than a fee-simple transfer.

As required in the congressional legislation authorizing the project, GU will dedicate 2.5 acres of land as scenic easement. FHWA maps indicate that the scenic easement will cover a strip of land along the GU campus boundary on the west, adjacent to Glover-Archbold Park. NPS has indicated that GU could either transfer the scenic easement to DCDPW who will then transfer it to NPS- or GU could transfer the scenic easement directly to NPS. It is the intent of NPS that land controls will be recorded as part of the scenic easement to keep the land in a natural vegetative state, without development intrusions including buildings, pavement, etc. However, to date, the language for the land controls has not been established.

Traffic

As part of the environmental impact evaluation of this project, FHWA evaluated the traffic impacts for various design alternatives. The alternatives evaluated included the proposed “Build” alternative (2A-Modified) and the “No Build” alternative. For each of these alternatives, traffic impacts were evaluated in both directions, in both the AM and PM peak hours, for the years 1998 and 2016.

In an effort to assess the impact of the proposed project on traffic flow, traffic speeds and delay were evaluated from the intersection of Canal Road/Foxhall Road to the west, and Canal Road/Whitehurst Freeway to the east of the proposed improvements. NETSIM, a standard network simulation-modeling tool, was used to conduct this evaluation. NETSIM is a program that models traffic flow and measures anticipated traffic speeds and average vehicle travel time.

Factors incorporated into the evaluation included:

- The Build alternative maintained the same configurations for the area traffic as the No Build with the exception of eastbound Canal Road at Whitehurst Freeway. The approach to this intersection added an eastbound lane of approximately 120 feet, with new lane designations to include an exclusive right-turn-only lane, a shared through/right lane, and a through-only lane.
- To provide a direct comparison between the scenarios, the same signal timings were used in both the No Build and Build conditions with the exception of the timings at the intersection of Whitehurst Freeway and Canal Road (due to the additional turning lane).

Some conclusions from the NETSIM analysis include:

- The Build alternative results in a slight reduction in travel time for eastbound traffic. As left turns will not be permitted out of Georgetown University in the AM peak hour, eastbound Canal Road traffic will not be required to stop at the new signalized intersection during this time period. The additional turning lane provided at the intersection with Whitehurst Freeway will improve eastbound traffic flow.
- The Build alternative will result in a slight increase in travel time for westbound traffic in the AM peak hour. This is due to the need to allow eastbound traffic to enter Georgetown University at the new signalized intersection. The westbound movement on Canal Road in the AM is “off-peak” traffic flow and the additional delay is minimal.
- The Build and No Build alternatives will operate at essentially the same level of delay in the westbound PM peak hour. Due to the existing delays at the Foxhall Road intersection, delays at the proposed new signal will not increase the corridor travel time.

Tables 5-1 and 5-2 from the Final Environmental Impact Statement (Final EIS), which summarize the NETSIM intersection Level of Service (LOS) analysis and the corridor travel time and speed analysis, are included below.

TABLE 5-1

NETSIM Summary of Intersection Levels of Service/Delay (Seconds)

		1998		2016	
INTERSECTION		NO BUILD	2A-MOD.	NO BUILD	2A-MOD.
Reservoir Road & Foxhall Road	AM	E / 45.3	D / 38.0	D / 39.8	E+ / 40.0
	PM	F / 76.3	F / 86.0	F / #	F / #
MacArthur Road & Foxhall Road	AM	C / 20.1	C / 18.8	E+ / 42.8	E / 48.5
	PM	C+ / 15.7	B / 14.8	C / 19.7	C / 19.9
Canal Road & Foxhall Road	AM	C / 21.5	C / 20.9	E / 45.5	E+ / 42.0
	PM	C / 24.4	C / 24.5	B / 13.6	B / 13.7
Canal Road & G.U. Entrance	AM	N/A	A / 0.1	N/A	A / 0.4
	PM	N/A	A / 2.1	N/A	A / 1.7
Canal Road & Whitehurst Fwy.	AM	B+ / 7.2	B+ / 5.5	B / 8.4	B+ / 6.7
	PM	C / 23.2	C / 20.4	F / 66.9	F / 67.0
Canal Road & Key Bridge	AM	C / 20.1	C / 18.9	D / 34.6	D / 35.4
	PM	B / 15.0	B / 11.4	F / 80.2	F / 86.4

Note: Entire table is new to FEIS.

Note: # - Indicates Extreme Delays

TABLE 5-2

NETSIM Summary of Average Corridor Travel Time and Speed
Federal-aid Primary Route

		1998		2016	
		NO BUILD	2A-MODIFIED	NO BUILD	2A-MODIFIED
EASTBOUND	AM	152.1 sec	141.9 sec	296.4 sec	238.7 sec
	PM	145.6 sec	127.0 sec	128.7 sec	116.6 sec
WESTBOUND	AM	82.9 sec	82.4 sec	171.9 sec	183.4 sec
	PM	210.3 sec	210.8 sec	362.9 sec	360.5 sec
EASTBOUND	AM	19.7 MPH	21.0 MPH	10.1 MPH	12.5 MPH
	PM	17.2 MPH	19.7 MPH	19.5 MPH	21.5 MPH
WESTBOUND	AM	37.9 MPH	38.2 MPH	19.0 MPH	17.3 MPH
	PM	17.2 MPH	17.2 MPH	10.0 MPH	10.1 MPH

Notes:

- Entire table is new to FEIS. Time is in seconds. Speed is in miles per hour.
- Eastbound AM extends from 700' west of Foxhall Road on Canal Road to just south of the Key Bridge
- Eastbound PM extends from the stopbar on Foxhall Road at Canal Road to just south of the Key Bridge
- Westbound AM extends from just west of the Key Bridge to the stopbar on Foxhall Road at Canal Road
- Westbound PM extends from just west of the Key Bridge to 700' west of Foxhall Road on Canal Road

PREVIOUS COMMISSION ACTION

At its meeting of November 2, 1995, the Commission authorized transmittal of a letter to FHWA commenting on the Draft Environmental Impact Statement (Draft EIS) for the Canal Road Entrance to GU. The letter requested that a Supplemental Draft EIS be prepared to study three additional alternatives. The letter also identified 16 issues/concerns.

In July of 1996, FHWA responded to the Commission's letter stating that the additional alternatives did not satisfy project needs and that a Supplemental Draft EIS was not needed. The letter addressed the Commission's 16 identified issues/concerns.

At its meeting on October 3, 1996, the Commission concurred with FHWA's determination that a Supplemental Draft EIS was not needed and agreed that FHWA could proceed directly to the Final EIS. The Commission restated its concern about possible development of the WMATA parcel of land, stating: "we reiterate our previous position opposing any alternative that could adversely affect the scenic environment and ecology of the Palisades through the facilitation of more intense development."

RESPONSE TO COMMISSION ACTION

In response to the Commission and others, FHWA developed a modification to alternative 2A which proposes no change in access to or easements across the WMATA parcel of land, and therefore does not facilitate more intense development of the Palisades. Alternative 2A-modified became the preferred alternative in the Final EIS and is the currently proposed project.

EVALUATION

The Design Plans

Staff recommends that the Commission approve the preliminary design plans. Traffic studies indicate that the proposed roadway changes will improve vehicle access to GU while reducing the traffic congestion on some of the streets in Georgetown near the university. The level-of-service on Canal Road in the project area will not decrease as a result of the addition of the proposed at-grade-signalized intersection.

When compared to all other build alternatives that were studied, the proposed design results in the least impact to federal parklands, the Potomac Palisades, the Georgetown Historic District, and the C&O Canal Historic Park. The amount of parkland needed for road construction is less than one acre, which will be replaced with either a scenic easement or a land transfer from university property. A small portion of the Palisades will be cut away to allow room for the new entrance road, but disturbance in this area will be minimized by the new retaining wall, less than 100 feet long, and less than ten feet high. Approximately 120 linear feet of the Canal Road retaining wall in the C&O Canal Historic Park will be relocated 6.5 feet to the south to provide room for the new turning lane accessing the Whitehurst Freeway. This disturbance to the C&O Canal Historic Park will be minimal.

The design plans submitted by FHWA are sufficient for preliminary approval; however, more information will be needed in the final plans to ensure that the commitments made in the Memorandum of Agreement culminating the Section 106 review have been satisfied. Therefore, staff recommends that the Commission request additional information be included with the submission of final plans; specifically, FHWA should prepare and submit for Commission review:

- Site plans and elevations for the new retaining wall along the new entrance road that demonstrate that the height of the retaining wall has been minimized to reduce the visual impact to the Palisades.
- Landscape plans for the project area which minimize the visual impact of the road construction and retain a pedestrian-friendly atmosphere along Canal Road.
- Design plans for the facade treatment of the Canal Road retaining wall at the Whitehurst Freeway entrance and for the cap to the C&O Canal wall, which better define the edge of the historic park and improve the visual and structural appearance of both walls.

The Land Transfers

The Commission is interested in retaining federal parkland within the National Capital Region. Since the proposed project would use parkland for road construction purposes, the Commission is concerned that no net loss of parkland occurs. However, in addition to considering the total acreage, the scenic value of the land should also be evaluated. To ensure that the scenic easement makes the greatest contribution possible, the Commission believes that the scenic easement should be located adjacent to existing parkland in areas where intense development is likely to occur. NPS shares this goal. As the details regarding the land transfers and the scenic easement agreements are still in negotiation, staff recommends that they be submitted to the Commission for approval prior to or concurrently with the review of final design plans.

COORDINATION

Coordinating Committee

The Coordinating Committee reviewed this item at its meeting on November 10, 1999, and forwarded the proposal to the Commission with the statement that the project has been coordinated with all agencies participating. The participating agencies were NCPC; the District of Columbia Office of Planning; the Fire Department; the Department of Housing and Community Development; the Department of Public Works; the National Park Service; the General Services Administration; and the Washington Metropolitan Area Transit Authority.

Commission of Fine Arts

The Commission of Fine Arts approved this project on November 18, 1999.

CONFORMANCE

Comprehensive Plan

Canal Road is designated as a Special Street in the Preservation and Historic Features Element of the Comprehensive Plan. The Parks, Open Space and Natural Features Element designates Canal Road as a Gateway to the Nation's Capital and the adjoining Palisades as a Natural Feature and the C&O Canal as a Historic Park. The Canal Road entrance is also located in the Georgetown Historic District. The proposed project would provide needed road improvements that would facilitate more efficient and safer ingress and egress to and from the university. The proposed road improvements would minimize environmental and esthetic impacts on the federal properties that would be affected as well as on the Historic District and would not be inconsistent with applicable policies in the Comprehensive Plan.

National Environmental Policy Act

- Pursuant to the National Environmental Policy Act (NEPA) an Environmental Impact Statement by FHWA, DCDPW and NPS was developed and finalized in December 1998.

- In accordance with NEPA, FHWA issued a Record of Decision (ROD) on the project in September 1999. The selected alternative identified in the ROD (at-grade signalized intersection) is the submitted project design now before the Commission.

National Historic Preservation Act

FHWA has concluded its responsibilities under Section 106 of the National Historic Preservation Act by concluding a Memorandum of Agreement in the fall of 1998 with the other agency signatories: the DC State Historic Preservation Officer, NPS, DCDPW, and the Advisory Council on Historic Preservation.

The three stipulations to which FHWA agreed are:

- During the design phase, every effort will be made to reduce the heights of retaining walls that would further reduce visual impacts to the Palisades.
- FHWA will develop a landscaping plan to screen visual impacts and to design a pedestrian-friendly atmosphere.
- FHWA will develop an appropriate facade treatment of the Canal Road retaining wall at the Whitehurst Freeway entrance and of the cap to the C&O Canal wall to better define the edge of the historic park by improving the visual and structural appearance of both walls.

The preliminary design plans do not contain the information which staff needs to determine if these stipulations have been met. This level of detail would customarily be reviewed when final plans are submitted.

GEORGETOWN UNIVERSITY/CANAL ROAD ENTRANCE
DISTRICT OF COLUMBIA
DE - 0014(10)

















